



Cantharidin

Data Sheet

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| Catalog Number: | MC11086 | Product Type: | Small Molecule |
| Bio-Activity: | Protein Phosphatase PP2A inhibitor | CAS #: | 56-25-7 |
| Research Categories: | Cell death, cancer | Chemical Name: | 3 α ,7 α -Dimethylhexahydro-4,7-epoxyisobenzofuran-1,3-dione |
| Solubility: | Soluble in DMSO (up to 20 mg/ml) or in Ethanol (up to 5 mg/ml). | Molecular Formula: | C10H12O4 |
| Purity: | > 98% | Molecular Weight: | 196.20 |
| Format: | Powder | Ship Temp: | Ambient |
| Storage: | -20°C | | |

Application Notes

Description/Data:

Inhibits protein phosphatase 2A ($K_i=0.19\text{ }\mu\text{M}$) and PP1 ($K_i=1.1\text{ }\mu\text{M}$) [1]. Displays >500-fold selectivity over PP2B. Suppresses growth and migration of PANC-1 pancreatic cancer cells via phosphorylation and degradation of β -catenin [2]. Arrests G2/M transition via JNK/Sp1-dependent down-regulation of CDK1 [3]. Cell permeable.

Warning: Avoid skin contact, may cause skin irritation or blistering.

References:

- 1) Honkanen (1993) Cantharidin, another natural toxin that inhibits the activity of serine/threonine protein phosphatases types 1 and 2A; FEBS Lett. 330 283
- 2) Wu et al. (2014) PP2A inhibitors suppress migration and growth of PANC-1 pancreatic cancer cells through inhibition on the Wnt/ β -Catenin pathway by phosphorylation and degradation of β -catenin; Oncol. Rep., 32 513
- 3) Gong et al. (2015) PP2A inhibitors arrest G2/M transition through JNK/Sp1-dependent down-regulation of CDK1 and autophagy up-regulation of p21; Oncotarget, 6 18469

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